

## ABSTRACT OF THE DISCLOSURE

Microspheres are constructed using magnetic particles. Hybrid microspheres are constructed using fluorescent or luminescent microspheres and magnetic nanoparticles. Reactive 5 moieties on the surface of the resultant particles can be used for attachment of biologically active molecules, thus allowing selective separations and analytical assays to be performed. Distinguishable subsets of microspheres can be constructed based on fluorescent intensities, and separations can be affected based on variable degree of magnetic content.

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